

Residents' Perspectives on the Use of the Internet to Improve Infectious Disease Reporting

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Background. Reports of infectious diseases to local and state public health agencies are often delayed and incomplete. Some of the clinicians charged with the responsibility for making notifications encounter various difficulties in reporting. These may include heavy patient loads that make it easy to forget to file reports, or cumbersome disease reporting mechanisms and systems. For some percentage of practitioners, knowledge of what and when to report infectious diseases is less than optimal. However, it is not clear how reporting methods or systems could be designed or improved, owing to lack of data on physicians' knowledge and views about them. We conducted a survey of resident physicians at three university teaching hospitals in Pennsylvania to ascertain their knowledge about reporting timeframe and responsibility, as well as their attitudes toward various methods to enhance disease reporting.

Methods. A questionnaire was administered to incoming residents at the Hospital of the University of Pennsylvania Health System, Penn State College of Medicine, the Milton S Hershey Medical Center, and University of Pittsburgh Health System. The questionnaire captured data on demographics, knowledge about the timeliness and responsibilities for disease reporting and notification, and previous training on disease reporting and recommendations for improving disease reporting. Summed scores were calculated separately for Timeliness of reporting and Responsibility for reporting, and normalized as unweighted proportion correct. Recommendations included specific communication modalities intended to improve reporting, such as access to a dedicated telephone number, a secure Internet site, prompting by email and/or fax reminders. The significance threshold was set to $p < 0.05$.

Results. A total of 244 house residents completed the questionnaire. Males comprised 58.0% of the respondents. Forty-one percent had received formal training on disease reporting in medical school. The

mean Timeliness score was 0.57 (SD=0.19), while the mean Responsibility score was 0.74 (SD=0.24). Recommendations by the respondents to improve disease reporting timeliness focused on telephone and Internet modalities: 85% identified the former, and 81.4% the latter, as "Very helpful." Email reminders were seen as "Very" or "Somewhat" helpful by 78.9% of respondents. When asked if a secure Internet site should be used for disease notification, 79.7% responded affirmatively. Of the remainder, 82.2% expressed concern about confidentiality, even on a secured Internet site. In addition, 42.9% felt that Internet-based reporting would be cumbersome. Males supported the use of Internet-based reporting more frequently than females. Females were more likely to express concern about confidentiality or mention the lack of an Internet connection in objecting to Internet-based reporting. Both the Timeliness and Responsibility scores were found to be significantly positively correlated with recommending email as a means of reminding practitioners to report. A similar correlation was found between the Responsibility score and concern about using the Internet as a reporting modality.

Conclusion. In addition to training on disease reporting, respondents identified secure Internet communication as a desirable means for infectious disease reporting. Some states have already adopted this modality, but those that have not yet done so should consider these results in determining whether or not to proceed. However, it will be important to address issues of confidentiality, especially under HIPPA, but also to allay concerns expressed by the respondents in this study.

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